

**REMARKS**

The Official Action mailed April 10, 2002 has been received and its contents carefully noted. This response is filed within three months of the mailing date of the Official Action and therefore is believed to be timely without extension of time.

Applicants note with appreciation the consideration of the Information Disclosure Statement filed on August 20, 2001.

Claims 1-26 were pending in the present application. Claims 4, 6, 16, 18, 20, 22, 24 and 26 have been amended and new claims 27-34 have been added to recite additional protection to which Applicant is entitled. Claims 1-34 are now pending in the present application, of which claims 1-2 and 7-13 are independent. For the reasons set forth in detail below, all claims 1-34 are believed to be in condition for allowance.

Paragraph 2 of the Official Action objects to Figures 1A, 1B, 1C, 2A, 3, 4A and 4B as lacking the designation of "Prior Art." In response, a *Request for Drawing Change Approval* is submitted herewith adding the legend "Prior Art" to these Figures as required by the Examiner.

Paragraph 3 of the Official Action also objects to the drawings as failing to comply with 37 CFR 1.84(p)(5) because they include reference signs not mentioned in the description. In response, these reference numerals have substantially been added to the specification in the *Substitute Specification* submitted herewith, or have been deleted from the drawings in the *Request for Drawing Change Approval* also submitted herewith.

Paragraph 4 of the Official Action further objects to Figure 5B, asserting that reference numeral 502 is not shown therein. In response, Figure 5B is corrected herewith to include this reference numeral. No new matter is added.

Paragraph 5 of the Official Action objects to the specification due to minor informalities. In response, these informalities have been corrected in the *Substitute Specification* submitted herewith.

In response to paragraph 6 and 7 of the Official Action, Applicants appreciate the Examiner's assistance in noting the above informalities and have corrected other informalities in the *Substitute Specification* submitted herewith. Furthermore, the

*Substitute Specification* includes line numbers as suggested in paragraph 7 of the Official Action to assist in addressing any further informalities.

Paragraph 8 of the Official Action objects to claims 4, 6, 16, 18, 20, 22, 24 and 26 for a minor informality that is corrected by the amendments above in the manner requested by the Examiner.

Paragraphs 10-18 of the Official Action reject claims 1-26 based on various combinations of U.S. Patent 6,350,549 to Sakurai et al. and U.S. Patent 5,561,321 to Hirano, U.S. Patent 6,210,872 to Hosaki et al, U.S. Patent 5,192,991 to Hosokawa, U.S. Patent 6,074,893 to Nakata et al. and U.S. Patent 6,111,324 to Sheppard et al. In each instance, the Official Action relies primarily on Sakuari ('549) and Hirano ('321).

As stated in MPEP § 2143-2143.01, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The present invention is generally directed to a method of supporting a flexible substrate, comprising the step of fixing the flexible substrate having thermal shrinkage to a holding frame having a thermal expansion coefficient smaller than 10 ppm/°C. It is respectfully submitted that the prior art of record, whether taken alone or in combination, fails to disclose or suggest at least the following three points.

First, according to the present invention, warp and wrinkle of the flexible substrate are greatly decreased as a result of the use of a holding frame (ceramic-metal complex) having a smaller thermal expansion coefficient than 10 ppm/°C. In particular, warp and wrinkle are not caused in the case of using a material having a thermal expansion coefficient of 6.5 ppm/°C or less (see page 7, lines 14-17 of the original specification).

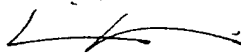
Second, as described on page 8, line 18 to page 9, line 13, leveling of the flexible substrate adhered to the above holding frame can be carried out by heating so as to thermal-shrink the flexible substrate by 0.2% or more, even if the flexible substrate has warp that occurs after being adhered to the frame.

Third, with respect to at least claims 9-12, in the method according to the present invention, steps such as forming a semiconductor film by plasma CVD, forming a predetermined pattern by screen printing, forming a conductive film by sputtering, and forming a predetermined pattern by laser processing, are performed over the flexible substrate to form a solar cell.

It is respectfully submitted that the prior art of record, whether taken alone or in combination, fails to disclose or suggest all of these claim limitations and therefore a *prima facie* case of obviousness cannot be maintained. Favorable reconsideration is respectfully requested.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact Applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,



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**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE CLAIMS:**

Please amend claims 4, 6, 16, 18, 20, 22, 24 and 26 as follows:

4. (Amended) A method of supporting a flexible substrate according to claim 1, wherein the holding frame comprises a ceramics-metal complex.

6. (Amended) A method of supporting a flexible substrate according to claim 2, wherein the holding frame comprises a ceramics-metal complex.

16. (Amended) A method of supporting a flexible substrate according to claim 7, wherein the holding frame comprises a ceramics-metal complex.

18. (Amended) A method of supporting a flexible substrate according to claim 8, wherein the holding frame comprises a ceramics-metal complex.

20. (Amended) A method of supporting a flexible substrate according to claim 9, wherein the holding frame comprises a ceramics-metal complex.

22. (Amended) A method of supporting a flexible substrate according to claim 10, wherein the holding frame comprises a ceramics-metal complex.

24. (Amended) A method of supporting a flexible substrate according to claim 11, wherein the holding frame comprises a ceramics-metal complex.

26. (Amended) A method of supporting a flexible substrate according to claim 12, wherein the holding frame comprises a ceramics-metal complex.